

What is claimed is:

1. A method of manufacturing a bending-resistant, torsionally yielding tubular profiled member as a transverse support of a twist beam rear axle of a passenger car, the method comprising the steps of:

✓ cold-forming a tube blank of tempering steel to a tubular profiled member with a torsionally yielding central longitudinal section of a U-shaped cross-section and with opposed torsion-proof end sections;

annealing at least partial sections of the tubular profiled member at a temperature level between 850° C and 960° C;

hardening the tubular profiled member in water at a temperature above the AC3 point; (*quenching*)

tempering the tubular profiled member at a temperature between 200° C and 550° C for a duration of more than five minutes;

subjecting the tubular profiled member at least to an outer surface hardening process; and

✓ subjecting the tubular profiled member to further configuration processing steps for completing a twist beam rear axle.

2. The method according to claim 1, wherein the step

of annealing is carried out at a temperature level between 920° C and 950° C.

3. The method according to claim 2, wherein the step of annealing is carried out at a temperature level of approximately 930° C.

4. The method according to claim 1, wherein the step of tempering is carried out at a temperature of approximately 280° C for a duration of approximately 20 minutes.

5. The method according to claim 1, wherein the tempering steel of the tube blank is of the specification 22MnB5.

6. The method according to claim 1, wherein the outer surface hardening is carried out by bombardment with balls.

7. The method according to claim 6, wherein the surface hardening is carried out by bombardment with steel balls.

8. The method according to claim 1, wherein the step

of annealing is performed on transitional sections of the tubular profiled member located between the central longitudinal section and the end sections.

9. A method of manufacturing a bending-resistant, torsionally yielding tubular profiled member as a transverse support of a twist beam rear axle of a passenger car, the method comprising the steps of:

cold-forming a tube blank of case hardening steel to a tubular profiled member with a torsionally yielding central longitudinal section of a U-shaped cross-section and opposed torsion-proof end sections;

case-hardening at least partial sections of the tubular profiled member during a heat treatment with carburization of the surface of the tubular profiled member and subsequent quenching;

subjecting the tubular profiled member at least to an outer surface hardening process; and

subjecting the tubular profiled member to further configuration processing steps for completing a twist beam rear axle.

10. The method according to claim 9, wherein the case-hardening steel of the tube blank is of the specification C15.

11. The method according to claim 9, wherein the step of case-hardening is performed on transitional sections of the tubular profiled member located between the central longitudinal section and the end sections.

12. The method according to claim 9, wherein the surface hardening is carried out by bombardment with balls.

13. The method according to claim 12, wherein the surface hardening is carried out by bombardment with steel balls.

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